Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-21 (Canceled)

Claim 22 (Currently Amended): A cartridge for counting and discriminating a plurality of types of blood cells in a blood sample in one counting operation, comprising a housing with

a first liquid storage chamber that [[holds]] has prestored therein a lysing reagent that lyses ~~and dilutes~~ erythrocytes while maintaining counting ability of other blood cell types,

a first mixing chamber and a first collection chamber separated by a wall containing a first orifice for the passage of the cells between the first mixing chamber and the first collection chamber,

a first cell characterizer that characterizes and counts the plurality of types of blood cells passing through the first orifice, the first cell characterizer including respective electrodes in the first mixing chamber and the first collection chamber,

a bore in the outer surface of the housing for entrance of the blood sample, and

a first sampling member positioned in the housing for sampling the blood sample and having a first cavity for receiving and holding the blood sample, the first sampling member being movably positioned in relation to the housing in such a way that[[,]]

in a first position, the first cavity is in communication with the bore ~~for entrance of~~ to receive and hold the blood sample ~~into the first cavity~~, and[[,]]

in a second position, the first liquid storage chamber communicates through the first cavity with the first mixing chamber so that the blood sample held in the first cavity can be flushed with the lysing reagent prestored in ~~discharged liquid from~~ the first liquid storage chamber into the first mixing chamber and mixed with the lysing reagent in the first mixing chamber.

Claim 23 (Previously Presented): A cartridge according to claim 22, wherein the lysing reagent contains a surfactant.

Claim 24 (Previously Presented): A cartridge according to claim 22, wherein the surfactant comprises a saponin.

Claim 25 (Previously Presented): A cartridge according to claim 22, wherein the lysing reagent comprises a quaternary ammonium salt.

Claim 26 (Previously Presented): A cartridge according to claim 25, wherein the lysing reagent further comprises N-(1-acetamido)iminodiacetic acid to further assist the quaternary ammonium salt in minimizing debris stemming from hemolysed red blood cells.

Claim 27 (Previously Presented): A cartridge according to claim 22, wherein the first liquid storage chamber further comprises compounds selected from the group consisting of N-(1-acetamido)iminodiacetic acid, procaine hydrochloride, and 1,3-dimethylurea for stabilizing leukocytes during hemolysis of the red blood cells.

Claim 28 (Previously Presented): A cartridge according to claim 22, wherein the first liquid storage chamber further comprises compounds selected from the group consisting of N-(1-acetamido)iminodiacetic acid, sodium chloride, and sodium sulphate for adjusting pH-value and osmotic pressure of the liquid therein.

Claim 29 (Previously Presented): A cartridge according to claim 22, wherein the first liquid storage chamber further comprises compounds selected from the group consisting of 1,3-dimethylolurea and chlorhexidine diacetate for minimizing bacterial growth.

Claim 30 (Previously Presented): A cartridge according to claim 22, wherein the first liquid storage chamber further comprises compounds selected from the group consisting of potassium cyanide, tetrazole, and triazole for converting haemoglobin species to an end product suitable for spectrophotometric analysis.

Claim 31 (Previously Presented): A cartridge according to claim 22, wherein the first liquid storage chamber contains inorganic salts rendering the liquid therein as having high electrical conductivity.

Claim 32 (Previously Presented): A cartridge according to claim 22, wherein the lysing reagent comprises 1,2,4-Triazole, dodecyltrimethylammonium chloride, and hexadecyltrimethylammonium bromide.

Claim 33 (Previously Presented): A cartridge according to claim 22, wherein the other blood cell types are reduced in size, and concentration thereof is determined by counting a representative fraction of respective cells.

Claim 34 (Previously Presented): A cartridge according to claim 22, wherein the other blood cell types include lymphocytes, which are selectively reduced in size by the lysing reagent and can be counted in a cell counter.

Claim 35 (Currently Amended): A cartridge according to claim 22, further comprising:

a second mixing chamber and a second collection chamber separated by a second wall containing a second orifice for the passage of the cells between the second mixing chamber and the second collection chamber,

a second cell characterizer that characterizes and counts the plurality of types of blood cells passing through the second orifice, [[and]]

wherein in the second position, the first cavity is in communication with the first mixing chamber ~~for entrance of~~ so that liquid from the first mixing chamber can enter into the first cavity, and[[,]]

wherein in a third position, the first cavity is in communication with the second mixing chamber ~~for discharge of~~ the liquid in the first cavity can be discharged into the second mixing chamber.

Claim 36 (Currently Amended): A cartridge according to claim 22, further comprising:

a second mixing chamber and a second collection chamber separated by a

second wall containing a second orifice for the passage of the cells between the second mixing chamber and the second collection chamber,

a second cell characterizer that characterizes and counts the plurality of types of blood cells passing through the second orifice, and

a second sampling member positioned in the housing for sampling a small and precise volume of liquid from the first mixing chamber and having a second cavity for receiving and holding the sampled liquid, the second sampling member being movably positioned in relation to the housing in such a way that[[,]]

in a first position, the second cavity is in communication with the first mixing chamber for entrance of liquid from the first mixing chamber into the second cavity, and[[,]]

in a second position, the second cavity is in communication with the second mixing chamber for discharge of the sampled liquid in the second cavity into the second mixing chamber.

Claim 37 (Previously Presented): A cartridge according to claim 22, further comprising a reagent chamber positioned adjacent to the first mixing chamber for holding a reagent to be entered into the first mixing chamber.

Claim 38 (Previously Presented): A cartridge according to claim 37, further comprising a breakable seal separating the reagent chamber from the first mixing chamber.

Claim 39 (Previously Presented): A cartridge according to claim 22, wherein a mixing member is positioned in the first mixing chamber.

Claim 40 (Previously Presented): A cartridge according to claim 22, further comprising a sensor for characterization of the liquid.

Claim 41 (Previously Presented): A cartridge according to claim 40, wherein the sensor for characterization of the liquid is adapted for spectrophotometric characterization of the liquid.

Claim 42 (Previously Presented): A cartridge according to claim 22, wherein the first orifice has a diameter in the range from 30 μm to 100 μm.

Claim 43 (Previously Presented): A cartridge according to claim 42, wherein the diameter of the first orifice is in the range from 35 μm to 50 μm.

Claim 44 (Previously Presented): A cartridge according to claim 42, wherein the diameter of the first orifice is in the range from 30 μm to 45 μm.

Claim 45 (Previously Presented): A cartridge according to claim 44, wherein the diameter of the first orifice is in the range from 35 μm to 40 μm.

Claim 46 (Previously Presented): A cartridge according to claim 45, wherein the diameter of the first orifice is substantially equal to 40 μm.

Claim 47 (Previously Presented): A cartridge according to claim 22, wherein the other blood cell types include monocytes, which are selectively reduced in size by the lysing reagent and can be counted in a cell counter.

Claim 48 (Previously Presented): A cartridge according to claim 22, wherein the other blood cell types include granulocytes, which are selectively reduced in size by the lysing reagent and can be counted in a cell counter.

Claim 49 (New): A cartridge for counting and discriminating a plurality of types of blood cells in a blood sample in one counting operation, comprising a housing with

a first liquid storage chamber that holds a lysing reagent that lyses erythrocytes while maintaining counting ability of other blood cell types,

a first mixing chamber and a first collection chamber separated by a wall containing a first orifice for the passage of the cells between the first mixing chamber and the first collection chamber,

a first cell characterizer that characterizes and counts the plurality of types of blood cells passing through the first orifice, the first cell characterizer including respective electrodes in the first mixing chamber and the first collection chamber,

a bore in the outer surface of the housing for entrance of the blood sample, and

a first sampling member positioned in the housing for sampling the blood sample and having a first cavity for receiving and holding the blood sample, the first sampling member being movably positioned in relation to the housing in such a way that,

in a first position, the first cavity is in communication with the bore to receive and hold the blood sample, and

in a second position, the first liquid storage chamber communicates through the first cavity with the first mixing chamber so that the blood sample can be flushed with the lysing reagent from the first liquid storage chamber into the first mixing chamber,

wherein the cartridge comprises a pressure channel communicating with the first

collection chamber, the pressure channel being adapted for coupling to a pressure source such that liquid flow through the first orifice can be controlled by pressure applied by the pressure source.

Claim 50 (New): A cartridge for counting and discriminating a plurality of types of blood cells in a blood sample in one counting operation, comprising a housing with

a first liquid storage chamber that holds a lysing reagent that lyses erythrocytes while maintaining counting ability of other blood cell types,

a first mixing chamber and a first collection chamber separated by a wall containing a first orifice for the passage of the cells between the first mixing chamber and the first collection chamber,

a first cell characterizer that characterizes and counts the plurality of types of blood cells passing through the first orifice, the first cell characterizer including respective electrodes in the first mixing chamber and the first collection chamber,

a bore in the outer surface of the housing for entrance of the blood sample, and

a first sampling member positioned in the housing for sampling the blood sample and having a first cavity for receiving and holding the blood sample, the first sampling member being movably positioned in relation to the housing in such a way that

in a first position, the first cavity is in communication with the bore to

receive and hold the blood sample, and

in a second position, the first liquid storage chamber communicates through the first cavity with the first mixing chamber so that the blood sample can be flushed with the lysing reagent from the first liquid storage chamber into the first mixing chamber,

wherein the cartridge comprises a pressure channel leading from the first mixing chamber and communicating with a connection port in the cartridge, the connection port being adapted for coupling to a pressure source through a connection port of a docking station such that liquid flow through the cartridge can be controlled by pressure applied by the pressure source.